I CLAIM:

1.   A linear positioning system for guiding a rip fence structure on a table saw comprising

a rail assembly including a threaded rod substantially enclosed in a cylindrical

5   housing having a longitudinal opening adjacent a T-shaped track,

a carriage configured to move back and forth along the rail assembly, the carriage having a threaded portion mounted on the rod, and a flange portion extending through the opening to the outside of the housing, the flange portion having a first T-slot configured to permit smooth sliding of the carriage on the T-shaped track of the housing, and

10   a rigid coupling device connecting the carriage to the fence structure so that movement of the carriage along the threaded rod causes corresponding movement of the fence structure.

15   2.   The system of claim 1, wherein the only contact between the rail assembly and carriage is along the T-shaped track.

3.   The system of claim 1, wherein the flange portion has a second T-slot for

20   attaching the coupling device to the carriage.

4. The system of claim 3, wherein the coupling device is attached to the carriage at least at two points.

5. The system of claim 4, wherein the two points define a line substantially parallel to the direction of fence structure movement.

6. The system of claim 3, wherein the flange portion has a third T-slot for attaching an interlock device capable of preventing operation of the saw when the carriage is moving.

7. The system of claim 1, wherein the housing has one or more external longitudinal T-slots for attaching the housing to other structures.

8. The system of claim 1, wherein the first T-slot has low friction material on an inner side of the slot for minimizing friction between the T-shaped rail and first T-slot.

9.   A linear positioning system for guiding a rip fence structure on a table saw

comprising

a rail assembly including a threaded rod substantially enclosed in a cylindrical

housing having a longitudinal opening,

5   a carriage configured to move back and forth along the rail assembly, the carriage

having a threaded portion mounted on the rod, and a flange portion extending through the

opening to the outside of the housing, and

a rigid coupling device connecting the carriage to the fence structure so that

movement of the carriage along the threaded rod causes corresponding movement of the

10   fence structure.

10.   The system of claim 9, wherein the housing has a T-shaped rail adjacent the

opening.

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11.   The system of claim 9, wherein the flange portion of the carriage has a first

T-slot configured to permit smooth sliding of the carriage on the T-shaped track of the

housing.

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12. The system of claim 11, wherein the flange portion has a second T-slot for attaching the coupling device to the carriage.

5   13. The system of claim 9, wherein the coupling device is attached to the carriage at least at two points.

14. The system of claim 13, wherein the two points define a line substantially

10   parallel to the direction of fence structure movement.

15. The system of claim 11, wherein the T-slot has low friction material on an inner side of the slot for minimizing friction between the T-shaped rail and first T-slot.

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16.   A linear positioning system for guiding a rip fence structure on a table saw comprising

a rail assembly including a threaded rod substantially enclosed in a cylindrical housing having a longitudinal opening adjacent a T-shaped track,

5   a carriage configured to move back and forth along the rail assembly, the carriage having a threaded portion mounted on the rod, and a flange portion extending through the opening to the outside of the housing, the flange portion having a T-slot configured to permit smooth sliding of the carriage on the T-shaped track of the housing, wherein the only contact between the rail assembly and carriage is along the T-shaped track, and

10   a rigid coupling device connecting the carriage to the fence structure so that movement of the carriage along the threaded rod causes corresponding movement of the fence structure.